

DOCKET NO.: SC11448TP P01

REMARKS

Claims 1-10, 15-34, and 38-42 remain pending in the current Application. No Amendments have been made herein.

Rejection of claims 1, 5, 8-10, 15, 19, and 23-25 under 35 U.S.C. 102(e)

Applicant respectfully submits that claims 1-3, 5, 8-10, 15, 19, and 23-25 are patentable over US Patent No. 6,245,641 (hereinafter referred to as Shiozawa).

As stated in the previous office action, each of claims 1, 15, 26, and 29 require that the first and second insulating layers be *grown*. Furthermore, claim 38, as originally presented, includes *growing* a first insulator liner in the first trench and a second insulator liner in the second trench. Also, each of these claims (1, 15, 26, 29, 38) includes etching a portion or at least a portion of the first insulator liner. Therefore, claims 1, 15, 26, 29, and 38 include etching a portion (or at least a portion) of the *grown* first insulator layer. In the current Office Action, the Examiner states that the first insulator liner is taught by layers 5b of Shiozawa and that the second insulator liner is taught by 5a and 8 of Shiozawa. However, Applicants respectfully disagree. Although portions 5a and 5b of Shiozawa are thermal oxides, silicon oxide film 8, as stated in col. 10, lines 5-10, of Shiozawa is deposited by CVD and not grown. Furthermore, silicon oxide film 8 of Shiozawa cannot be grown since it must also be formed on the silicon nitride films 3a to 3d in order to prevent corner erosion of the nitride films 3a and 3b during the trench fill process (see col. 10, lines 5-10 and lines 45-65, of Shiozawa). Unlike claims 1, 15, 26, 29, and 38, only the silicon oxide film 8 of the oxide layers of Shiozawa is ever removed (see FIG.7). That is, Shiozawa does not teach or even suggest the etching of a *grown* oxide within the trenches. Therefore, for at least those reasons, Applicants submit that claims 1, 15, 26, 29, and 38 are patentable over Shiozawa.

In the Response to Arguments section of the current Office Action, the Examiner states that "the process of depositing an oxide layer on top of a substrate is the same as growing an oxide layer using CVD deposition." However, this is incorrect. Growing an oxide layer is *not* the same as depositing an oxide layer. For example, a grown oxide generally results in a higher quality oxide as compared to a deposited oxide. However, depending on the stage of processing,

DOCKET NO.: SC11448TP P01

it may not be possible to grow an oxide. For example, the high temperature required in growing the oxide may damage other portions of the wafer, or there may not be a suitable material on which to grow the oxide. Therefore, there are many situations in which one form of an oxide (grown or deposited) is preferable over the other. There are also situations where one form of oxide may not be possible. For example, as discussed above, the silicon oxide film 8 of Shiozawa cannot be grown since it must also be formed on the silicon nitride films 3a to 3d in order to prevent corner erosion of the nitride films 3a and 3b during the trench fill process. The Examiner also states that "Applicant does not explicitly state that the oxide layer in the claims is thermally grown oxide layer." However, one of ordinary skill in the art knows that growing an oxide layer results in a thermally grown oxide layer. That is, a grown oxide layer is the same as a thermally grown oxide layer.

Claims 2-10, 16-25, 27-28, 30-34, and 39-42 have not been independently addressed because they depend directly or indirectly from allowable claims 1, 15, 26, 29, or 38, and are therefore allowable for at least those reasons stated above with respect to these claims.

Conclusion

Although Applicants may disagree with statements made by the Examiner in reference to the claims and the cited references, Applicants are not discussing all these statements in the current Office Action, yet reserve the right to address them at a later time if necessary.

Applicant respectfully solicits allowance of the pending claims. Contact me if there are any issues regarding this communication or the current Application.

DOCKET NO.: SC11448TP P01

Accordingly, this application is believed to be in proper form for allowance and an early notice of allowance is respectfully requested.

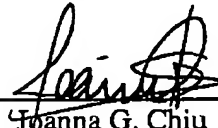
Please charge any fees associated herewith, including extension of time fees, to **Deposit Account 502117.**

Respectfully submitted,

SEND CORRESPONDENCE TO:

Motorola, Inc.
Intellectual Property Section
Law Department
7700 West Parmer Lane
MD: TX32/PL02
Austin, Texas 78729

By: _____


Joanna G. Chiu
Attorney of Record
Reg. No.: 43,629
Telephone: (512) 996-6839
Fax No.: (512) 996-6854

FAX RECEIVED

JUN 20 2003

TECHNOLOGY CENTER 2800